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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,547	12/14/2000	Seok Moon Kang	HI-024	6563

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EXAMINER

LE, NHAN T

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,547

Applicant(s)

KANG, SEOK MOON

Examiner

Nhan T Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 14-23 is/are allowed.
- 6) ☒ Claim(s) 8 and 9, 27-31 is/are rejected.
- 7) ☒ Claim(s) 10-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Borg (US 5,768,689).

As to claim 8, Applicant's admitted prior art teaches a code division multiple access (CDMA) base station system, comprising: a transmitter configured to modulate and transmit a first signal through a first antenna (see fig. 1, numbers 104, 106, 108, page 3, lines 5-7); a receiver configured to receive and demodulate a second signal through a second antenna (see fig. 1, numbers 105, 107, 109, page 3, lines 8-14). Applicant's admitted prior art fails to teach a radio frequency (RF) characteristic analyzer coupled to monitor and analyze an output signal of each of the transmitter and receiver and determine an extent of signal degradation, and to provide a monitoring signal based on the level of degradation. Borg teaches a transceiver testing unit (see fig. 2, numbers 10 and 28) wherein the transceiver testing unit performs a test to verify transmitter and receiver links and to evaluate signal strength and quality, uplink and downlink on all channels (see fig. 2, number 10; transmitter output signal, number 28; receiver output signal). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Borg into the

system of Applicant's admitted prior art in order to perform signal strength and quality testing (as suggested by Borg, see col. 5, lines 12-19).

As to claim 9, the modified applicant's admitted prior art teaches the RF characteristic analyzer comprises: a first analyzing circuit coupled to monitor and analyze an output signal of the transmitter in real time; a second analyzing circuit coupled to monitor and analyze an output signal of the receiver in real time (see fig. 2, number 10; transmitter output signal, number 28; receiver output signal); The modified Applicant's admitted prior art fails to teach an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits, and generating the monitoring signal. Borg also teaches an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits, and generating the monitoring signal (see Borg col. 5, lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Borg into the system of modified Applicant's admitted prior art in order to alert of the faulty test results (see Borg col. 5, lines 45-55).

2. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borg (US 5,768,689) in view of Kobayashi et al (US 5,442,811).

As to claim 27, Borg teaches a base station comprising a RF characteristic analyzer (see fig. 2, number 10, col. 5, lines 12-40) configured to monitor and analyze output signals as to determine if a call quality of the base station is going to deteriorate and alarm circuit (see col. 5, lines 42-61) configured to generated a least one alarm if the RF characteristic analyzer determines the call quality is going to deteriorate. Borg

fails teach wherein analyzer configured to monitor and analyze the output signals of a transmission frequency band filter and receiving frequency converter. Kobayashi teaches transmission system wherein the signals of transmission frequency band filter and receiving frequency converter are being monitored and analyzed (see col. 11, lines 49-67, col. 12, lines 1-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kobayashi into the system of Borg in order to filter out the undesired signals.

As to claim 28, the combination of Borg and Kobayashi teaches wherein the RF characteristic analyzer determines the call quality is going to deteriorate by analyzing RF characteristics of the transmission frequency band filter and the receiving frequency converter (see Borg col. 5, lines 12, 61, Kobayashi see col. 11, lines 49-67, col. 12, lines 1-25).

As to claim 29, the combination of Borg and Kobayashi teaches wherein the RF characteristic analyzer analyzes the unwanted signal that includes an out of band transmitted by the base station (see Kobayashi col. 12, lines 1-25).

3. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borg (US 5,768,689) in view of Kobayashi et al (US 5,442,811) further in view of Katsuyama et al (US 6,112,070).

As to claim 30, the combination of Borg and Kobayashi fails to wherein the unwanted wave signals have frequencies of ± 1.25 MHz, ± 1.98 MHz, ± 2.25 MHz and greater than ± 2.25 MHz when the band frequency is 1.23 MHz. Katsuyama teaches the band pass filter is 1.23 Mhz (see col. 7, lines 14-27). Therefore, it would have been

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obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Katsuyama into the system of Borg and Kobayashi in order to filter the undesired signals within a frequency ranges. The combination of Borg, Kobayashi and Katsuyama fails to teach the unwanted signals have frequencies of ± 1.25 MHZ, ± 1.98 MHZ, ± 2.25 MHZ and greater than ± 2.25 MHZ. However, it is obvious to one skill in the art to apply the higher frequency teaching into the combination of Borg, Kobayashi, and Katsuyama to filter out the frequency which is above the band pass frequency.

As to claim 31, the combination of Borg, Kobayashi, and Katsuyama teaches wherein the alarm circuit generates the at least one alarm if a signal strength of the out-of-band signal increases beyond a predetermined level (see Borg col. 5, lines 27-55).

Allowable Subject Matter

Claims 10-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 10, the applied reference fails to teach a band rejection filter coupled to receive the transmitter output signal and filter out a prescribed band of the signal; a first analog-to-digital (A/D) converter coupled to convert an output of the band rejection filter into a digital signal; a first low pass filter coupled to the A/D converter to pass only a low frequency digital signal; a first signal processor coupled to determine whether a strength of the low frequency digital signal is increasing; a first output circuit coupled to change a sign of an output signal of the first signal processor and generate a first output signal; a second signal processor coupled to determine if the strength of the low

frequency digital signal is greater than a prescribed threshold value; and a second output circuit coupled to logically combine the first output signal with an output of the second signal processor and generate a second output signal.

Claims 1-7, 14-23 are allowed:

Regarding to claim 1, Borg (US 5,768,689) teaches transceiver tester, Hanninen (US 5,423,071) teaches monitoring and alarm circuitry for a base station transmitting supervising signals to one or more mobile radio stations, Mizikovsky (US 5,255,307) teaches status indicator control for cellular mobile telephone system, Shimizu et al (US 4,989,204) teaches high throughput communication method and system for a digital mobile station when crossing a zone boundary a session, Kobayashi (US 5,442,811) teaches loop testable radio transceiver, Katsuyama et al (US 6,112,070) teaches high frequency receiving circuit for mobile communication apparatus. The teaching of these prior arts either combine or alone fails to teach wherein the RF characteristic analyzer comprises a first analyzing circuit to monitor and analyze the output signal of the transmitter; a second analyzing circuit for monitoring and analyzing the output signal of the receiver; an alarm circuit to receive analyzed data from the first and second analyzing circuits and generate an alarm signal.

Dependent claims 2-7 are allowable for the same reason.

Regarding to claim 14, Borg (US 5,768,689) teaches transceiver tester, Hanninen (US 5,423,071) teaches monitoring and alarm circuitry for a base station transmitting supervising signals to one or more mobile radio stations, Mizikovsky (US 5,255,307) teaches status indicator control for cellular mobile telephone system,

Shimizu et al (US 4,989,204) teaches high throughput communication method and system for a digital mobile station when crossing a zone boundary a session, Kobayashi (US 5,442,811) teaches loop testable radio transceiver, Katsuyama et al (US 6,112,070) teaches high frequency receiving circuit for mobile communication apparatus. The teaching of these prior arts either combine or alone fails to teach the combination of input/output module, first analyzing circuit, second analyzing circuit, and alarm circuit as cited in the claim.

Dependent claims 15-23 are allowable for the same reason.

Response to Arguments

Applicant's arguments with respect to claims 1-23, 27-31 have been considered but are moot in view of the new ground(s) of rejection.

As to claims 8-9, the examiner retains the rejection of claims 8-9 since applicant fails to address the rejection to claims 8-9.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T Le whose telephone number is 703-305-4538. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nhan Le



3-15-2005

NGUYENT.VO
PRIMARY EXAMINER